

REPLACEMENT
 AS A RESULT OF
 REVERSE
 TRANSCRIPTION
 OF VECTOR RNA

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IRRELEVANT SEQUENCE
 REPLACEMENT
 MUTATION OF
 ENHANCER AND
 PROMOTER

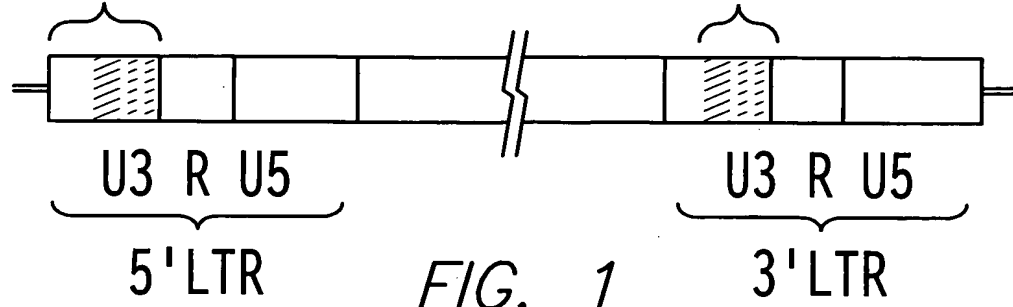


FIG. 1

REPLACEMENT
 AS A RESULT OF
 REVERSE
 TRANSCRIPTION
 OF VECTOR RNA

IRRELEVANT
 SEQUENCE
 REPLACEMENT
 MUTATION OF
 ENHANCER

H2A614 STEM LOOP
 REPLACEMENT
 MUTATION OF
 PROMOTER

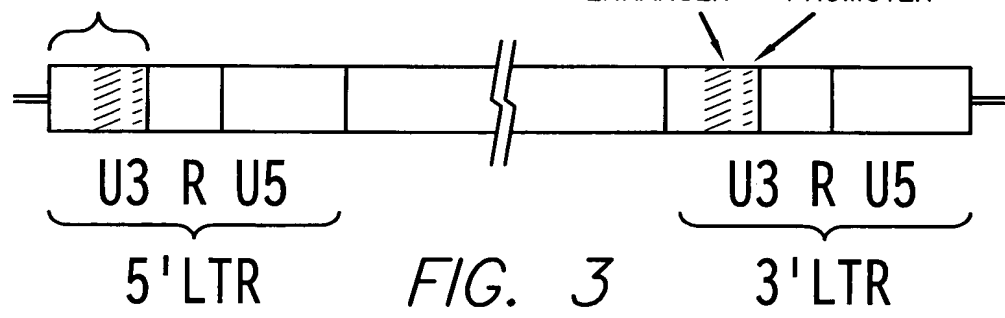


FIG. 3

REPLACEMENT
 AS A RESULT OF
 REVERSE
 TRANSCRIPTION
 OF VECTOR RNA

REPLACEMENT MUTATION
 OF PROMOTER/ENHANCER
 SEQUENCES WITH A
 POLYADENYLATION
 PROCESSING SIGNAL
 WITHOUT AATAAA

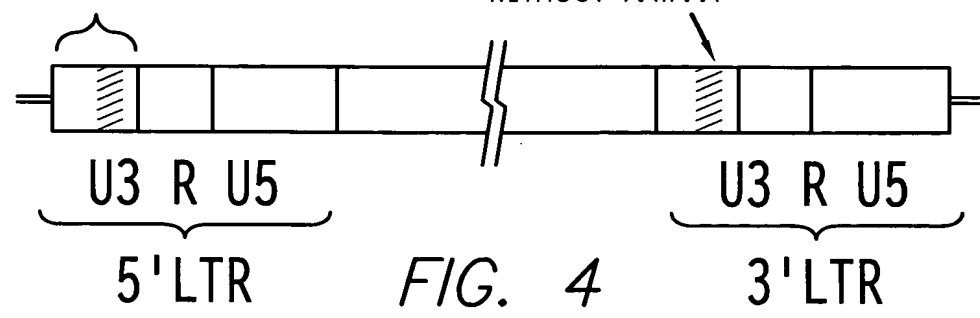


FIG. 4



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Wild type 3' LTR sequence:

1	GAACAGATGG	AACAGCTGAA	TATGGGCCAA	ACAGGATATC	TGTGG TAAGC
51	AGTTCC TGCC	CCGGCTCAGG	GCCAAGAACA	GATGGAACAG	CTGAATATGG
101	GCCAAACAGG	ATATCTGTGG	TAAGCAGTTC	CTGCCCCGGC	TCAGGGCCAA
151	GAACAGATGG	TCCCCAGATG	CGGTCCAGCC	CTCAGCAGTT	TCTAGAGAAC
201	CATCAGATGT	TTCCAGGGTG	CCCCAAGGAC	CTGAAATGAC	CCTGTGCCTT
251	ATTGAACTA	ACCAATCAGT	TCGCTTCTCG	CTTCTGTTCG	CGCGCTTCTG
301	CTCCCCGAGC	TCAATAAAA			

Corresponding modified 3' LTR sequence from pENZ1
(modified sequences in bold italics):

1	ACGCTTGATC	CGGCTACCTG	CCCATTGAC	CACCAAGCGA	AACATCGCAT
51	CGAGCGAGCA	CGTACTCGGA	TGGAAGCCGG	TCTTGTGAT	CAGGATGATC
101	TGGACGAAGA	GCATCAGGGG	CTCGCGCCAG	CCGAACTGTT	CGCCAGGCTC
151	AAGGCGCGCA	TGCCCCGACGG	CGAGGATCTC	GTCGTGACTT	TCTAGAGAAC
201	CATCAGATGT	TTCCAGGGTG	CCCCAAGGAC	CTGAAATGAC	CCTGTGCCTT
251	ATTGAACTA	ACCGGTCAGT	TCGCTTCTCG	CTTCTGTTCG	CGCGCTTCTG
301	CTCCCCGAGC	TCAGCTGCG			

FIG. 2

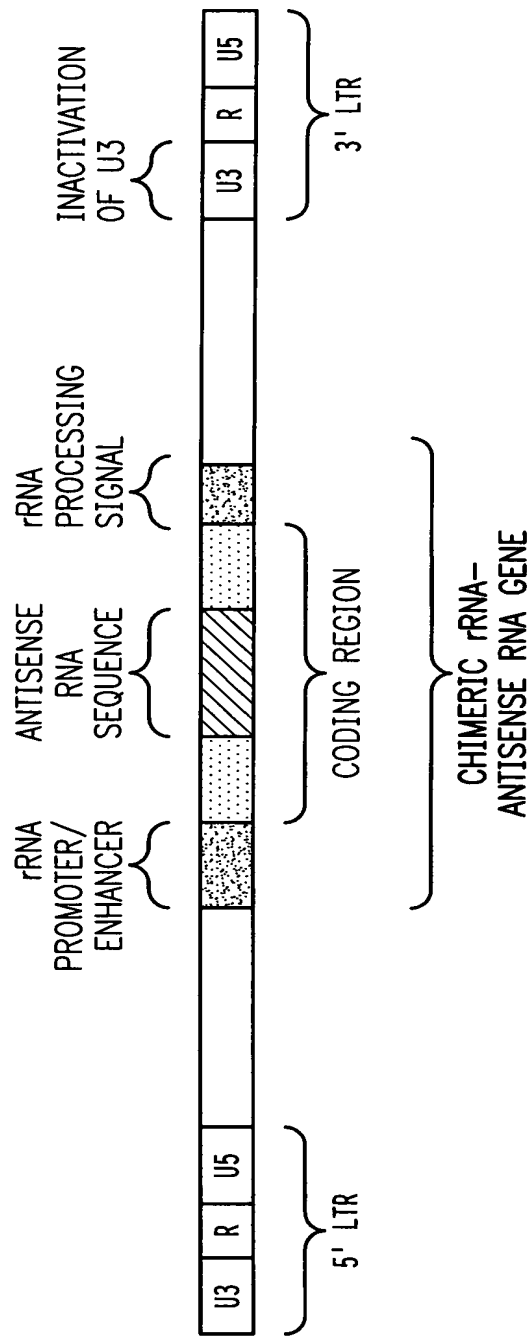


FIG. 5

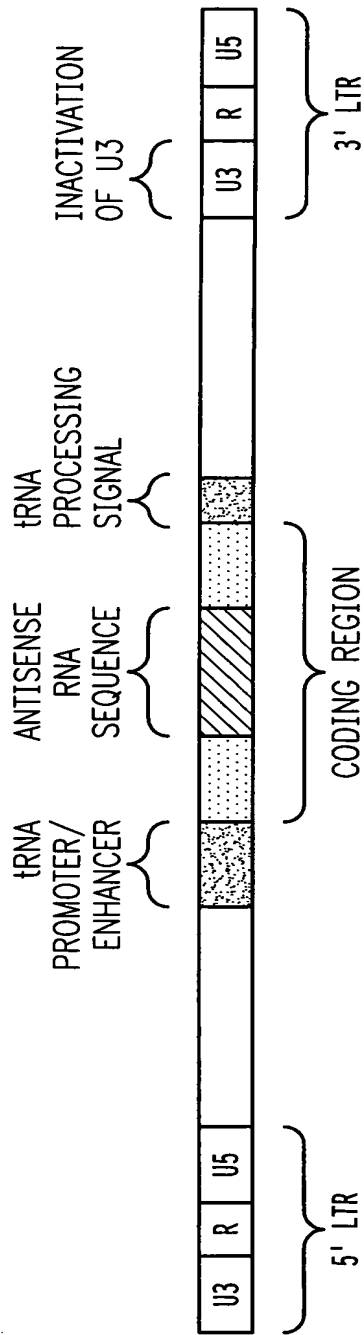


FIG. 6

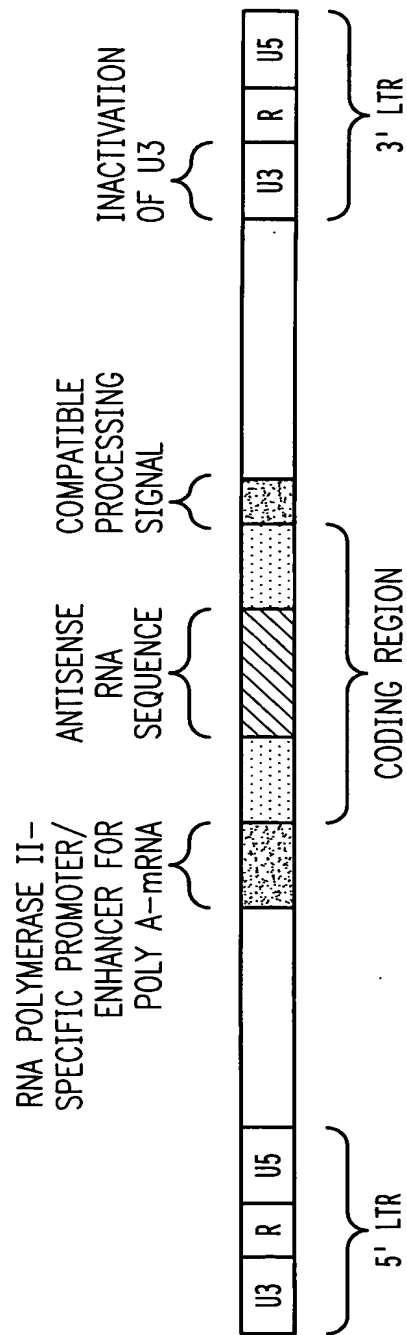
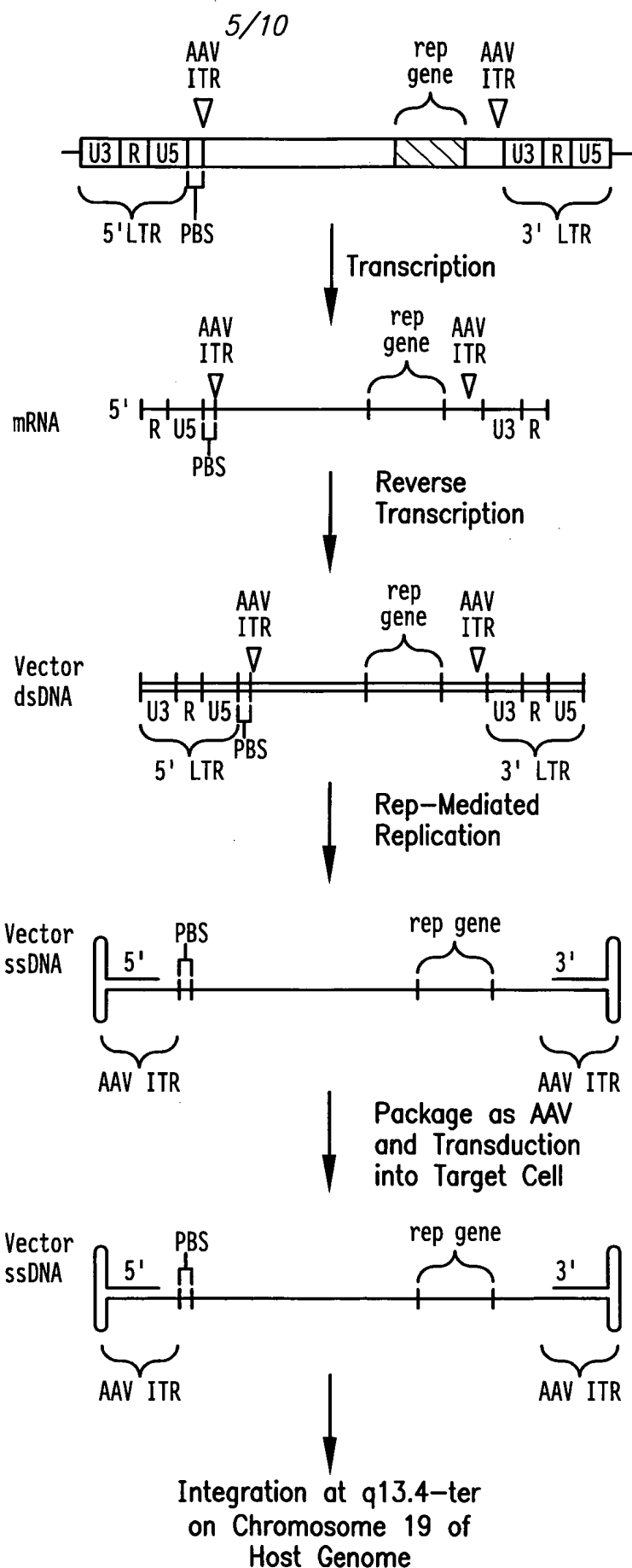


FIG. 7

Vector DNA Construct
 Transfected into
 Packaging Cell

FIG. 8



Vector DNA Construct
 Transfected into
 Packaging Cell

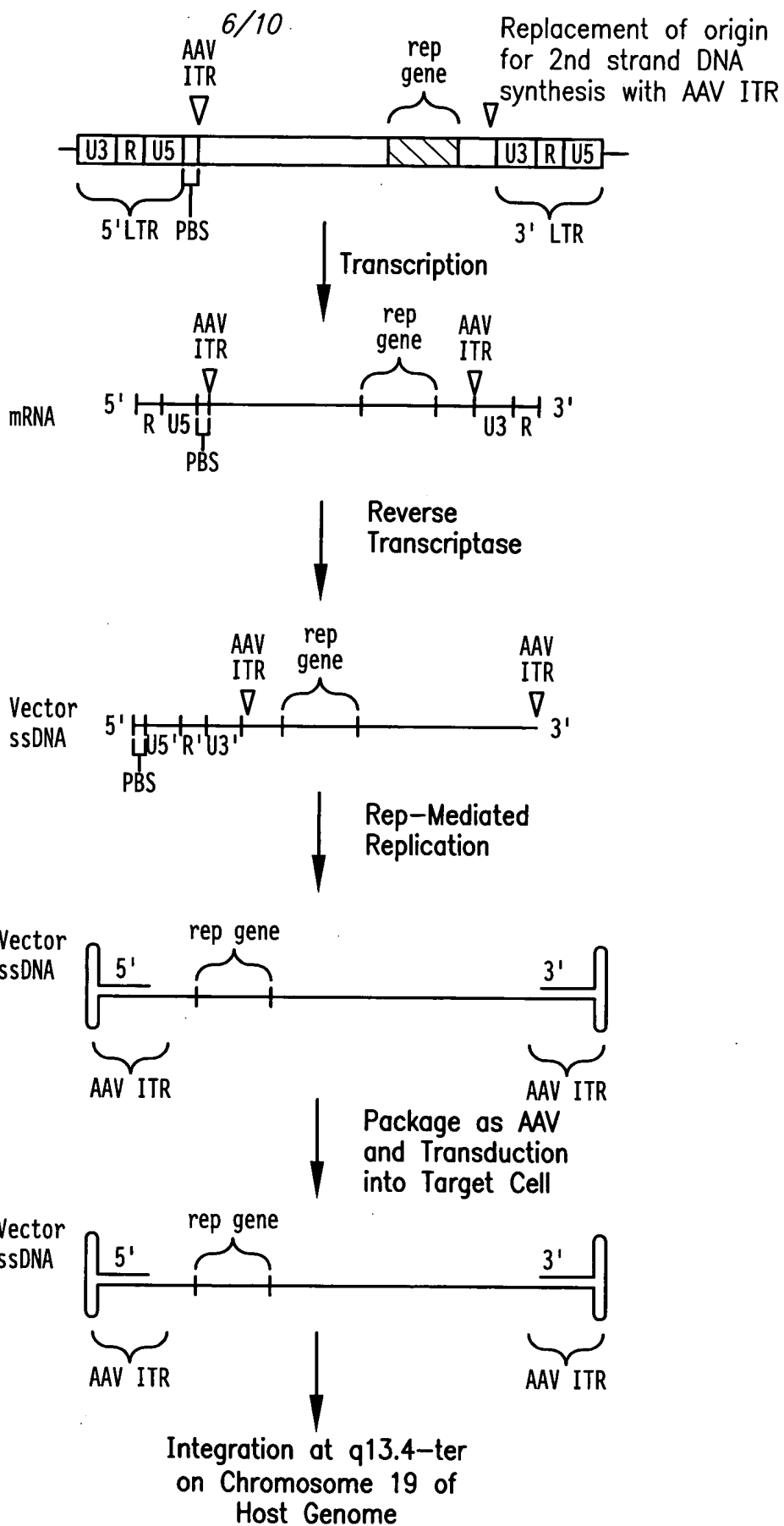
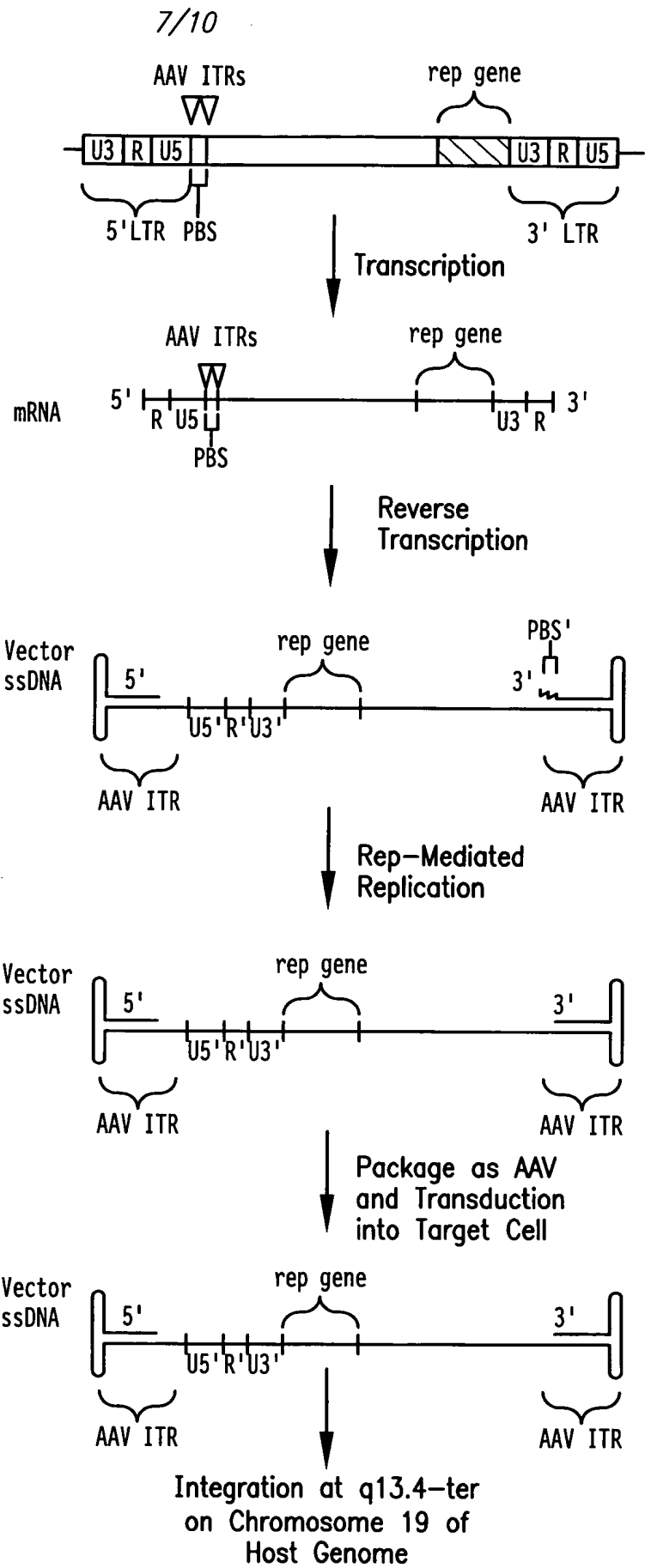


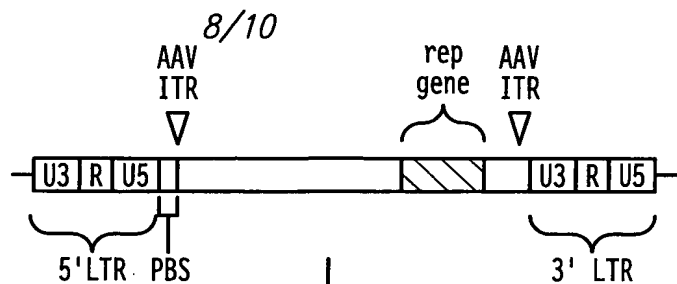
FIG. 9

Vector DNA Construct
Transfected into
Packaging Cell

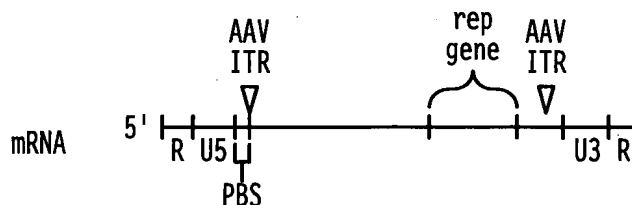
FIG. 10



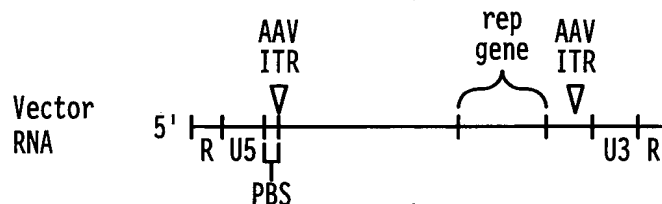
Vector DNA Construct
 Transfected into
 Packaging Cell



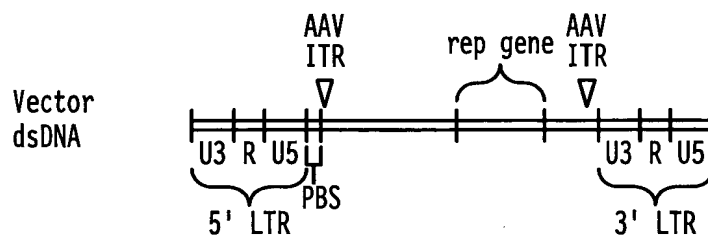
Transcription



Package as Retrovirus
 and Transduction into
 Target Cell.



Reverse Transcription



Rep-Mediated Replication



Integration at q13.4-ter
 on Chromosome 19 of
 Host Genome

FIG. 11

Vector DNA Construct
 Transfected into
 Packaging Cell

FIG. 13

